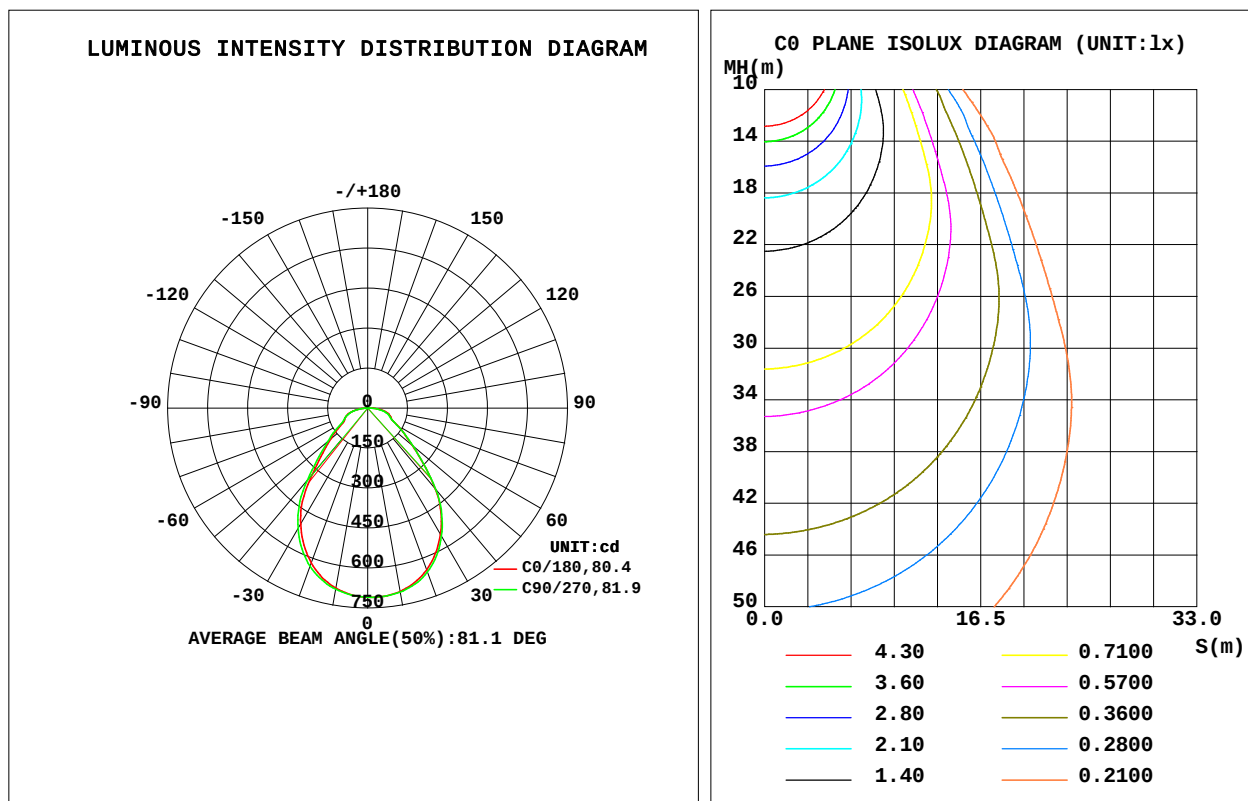


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.8V I:0.1010A P:15.50W PF:0.6950 Lamp Flux:1337.34x1 lm		
NAME: UNF-20210015-CDA 下	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 86.28 lm/W			
MODEL		I _{max} (cd)	710.6	S/MH(C0/180)	1.15
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.17
RATED VOLTAGE(V)	220.0	TOTAL FLUX(lm)	1337.3	η UP, DN(C0-180)	0.0,48.2
NOMINAL FLUX(lm)	1337.34	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,51.8
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220.0	η down(%)	100.0	CIBSE SHR MAX	1.25



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-07-26

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.295T
Humidity: 65.0%
Test Distance: 9.460m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	ϕ zone	ϕ total	%lum, lamp
10	686.0	686.5	690.1	693.8	698.4	700.8	700.9	693.3	0- 10	66.99	66.99	5.01, 5.01
20	618.7	621.4	632.1	638.3	646.2	652.1	654.9	634.9	10- 20	188.9	255.9	19.1, 19.1
30	503.5	508.4	522.3	531.8	546.1	548.6	554.4	524.7	20- 30	270.4	526.3	39.4, 39.4
40	321.6	359.5	352.5	397.3	395.5	416.2	397.5	380.7	30- 40	286.7	813.0	60.8, 60.8
50	181.0	161.8	195.5	187.5	220.2	200.2	222.9	175.1	40- 50	214.1	1027	76.8, 76.8
60	105.2	85.25	113.3	88.72	127.8	93.61	125.4	88.23	50- 60	126.8	1154	86.3, 86.3
70	84.64	69.66	83.37	77.40	91.59	82.19	87.94	76.59	60- 70	89.87	1244	93, 93
80	46.33	35.51	45.42	42.68	62.47	46.84	54.44	39.86	70- 80	68.96	1313	98.2, 98.2
90	0.8355	0.8644	0.8240	1.008	3.705	3.993	1.014	0.9105	80- 90	24.61	1337	100, 100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 933.89 lm

%lum = 69.8%

%lamp = 69.8%

Conical surface Flux(120deg): 1153.9 lm

%lum = 86.3%

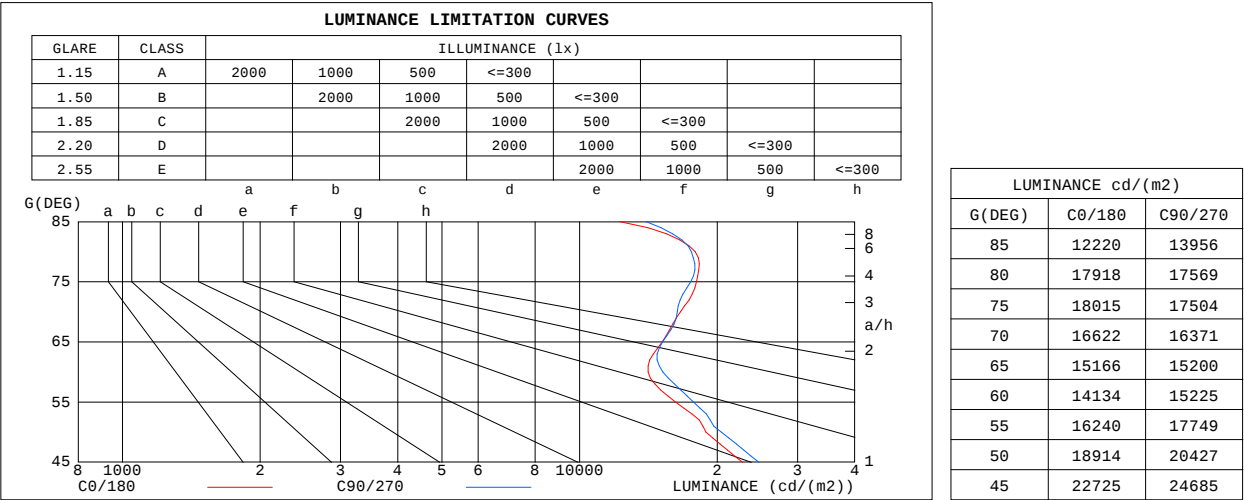
%lamp = 86.3%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2023-07-26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.295T
 Humidity: 65.0%
 Test Distance: 9.460m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.8V I:0.1010A P:15.50W PF:0.6950 Lamp Flux:1337.34x1 lm		
NAME: UNF-20210015-CDA 下	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



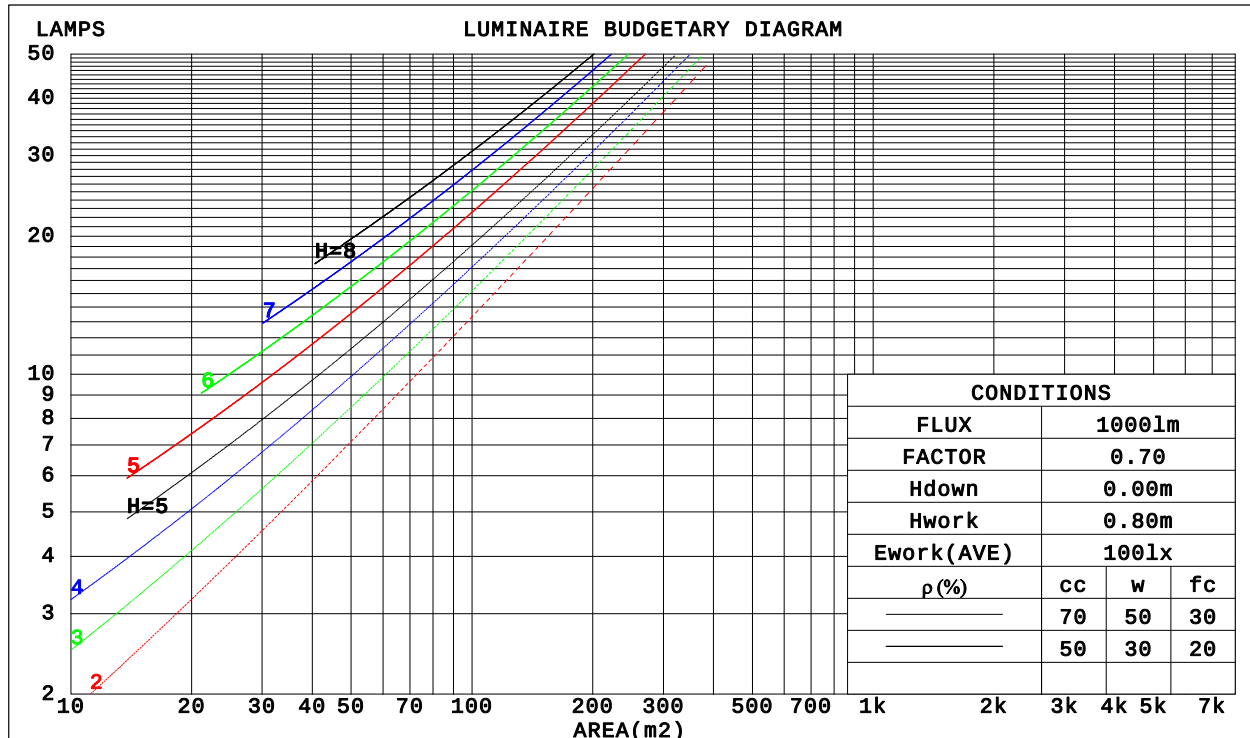
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-07-26

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.460m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.8V I:0.1010A P:15.50W PF:0.6950 Lamp Flux:1337.34x1 lm		
NAME: UNF-20210015-CDA 下	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

ρ_{CC}	80%			70%			50%			30%			10%			0	
ρ_W	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρ_{fc}	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)										
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.00	
1.0	1.06	1.02	.99	1.04	1.00	.97	.99	.97	.94	.96	.93	.91	.92	.90	.88	.86	
2.0	.94	.88	.83	.93	.87	.82	.89	.84	.81	.86	.82	.79	.83	.80	.77	.75	
3.0	.85	.78	.72	.83	.77	.71	.80	.75	.70	.78	.73	.69	.75	.71	.68	.66	
4.0	.77	.69	.63	.75	.68	.62	.73	.67	.62	.71	.65	.61	.69	.64	.60	.58	
5.0	.70	.62	.56	.68	.61	.55	.66	.60	.55	.65	.59	.54	.63	.58	.54	.52	
6.0	.64	.56	.50	.63	.55	.50	.61	.54	.49	.59	.53	.49	.58	.52	.48	.46	
7.0	.58	.50	.45	.58	.50	.45	.56	.49	.44	.55	.49	.44	.53	.48	.44	.42	
8.0	.54	.46	.41	.53	.46	.41	.52	.45	.40	.51	.45	.40	.50	.44	.40	.38	
9.0	.50	.42	.37	.49	.42	.37	.48	.42	.37	.47	.41	.37	.46	.41	.37	.35	
10.0	.46	.39	.34	.46	.39	.34	.45	.38	.34	.44	.38	.34	.43	.38	.34	.32	



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-07-26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295T
Humidity: 65.0%
Test Distance: 9.460m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:220.8V I:0.1010A P:15.50W PF:0.6950 Lamp Flux:1337.34x1 lm					
NAME: UNF-20210015-CDA 下			TYPE:		WEIGHT:
SPEC.:			DIM.:		SERIAL No.:
MFR.:			SUR.:		Shielding Angle:

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.272	.154	.049	.265	.151	.048	.252	.144	.046	.239	.138	.044	.228	.132	.043	
2.0	.254	.139	.043	.248	.137	.042	.236	.131	.041	.226	.127	.040	.216	.122	.039	
3.0	.236	.125	.038	.230	.123	.037	.221	.120	.036	.211	.116	.036	.203	.112	.035	
4.0	.219	.114	.033	.214	.112	.033	.206	.109	.033	.198	.106	.032	.190	.103	.031	
5.0	.204	.104	.030	.200	.103	.030	.192	.100	.029	.185	.098	.029	.178	.095	.029	
6.0	.191	.096	.027	.187	.095	.027	.180	.092	.027	.174	.090	.027	.168	.088	.026	
7.0	.179	.089	.025	.176	.088	.025	.170	.086	.025	.164	.084	.024	.159	.082	.024	
8.0	.168	.082	.023	.166	.082	.023	.160	.080	.023	.155	.078	.023	.150	.077	.022	
9.0	.159	.077	.021	.156	.076	.021	.151	.075	.021	.147	.074	.021	.142	.072	.021	
10.0	.150	.072	.020	.148	.072	.020	.144	.070	.020	.139	.069	.020	.135	.068	.020	

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Ceiling Cavity Exitance Coefficients(CCEC)												
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.178	.156	.137	.152	.134	.118	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.167	.132	.103	.143	.114	.089	.098	.079	.062	.057	.046	.036	.018	.015	.012	
3.0	.158	.114	.079	.135	.098	.069	.093	.068	.048	.054	.040	.028	.017	.013	.009	
4.0	.149	.100	.063	.128	.087	.055	.088	.060	.038	.051	.035	.023	.016	.012	.007	
5.0	.142	.090	.051	.122	.077	.044	.084	.054	.031	.049	.032	.019	.016	.010	.006	
6.0	.135	.081	.042	.116	.070	.037	.080	.049	.026	.046	.029	.016	.015	.009	.005	
7.0	.128	.074	.036	.110	.064	.031	.076	.045	.022	.044	.026	.013	.014	.009	.004	
8.0	.122	.068	.031	.105	.059	.027	.073	.041	.019	.042	.024	.011	.014	.008	.004	
9.0	.116	.063	.027	.100	.055	.024	.069	.038	.017	.040	.023	.010	.013	.007	.003	
10.0	.111	.059	.024	.096	.051	.021	.066	.036	.015	.039	.021	.009	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2023-07-26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295T
 Humidity:65.0%
 Test Distance:9.460m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.8V I:0.1010A P:15.50W PF:0.6950 Lamp Flux:1337.34x1 lm											
NAME: UNF-20210015-CDA 下					TYPE:			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.:					SUR.:			Shielding Angle:			
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3	
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3	
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Room dimensions		Viewed crosswise					Viewed endwise				
x = 2H y = 2H	2H	21.1	22.4	21.4	22.6	22.8	21.4	22.7	21.6	22.9	23.1
	3H	22.6	23.8	22.9	24.1	24.3	22.8	24.0	23.1	24.2	24.5
	4H	23.5	24.7	23.8	24.9	25.1	23.5	24.7	23.9	25.0	25.2
	6H	24.2	25.3	24.5	25.6	25.9	24.3	25.4	24.6	25.6	25.9
	8H	24.5	25.5	24.8	25.8	26.1	24.5	25.6	24.8	25.8	26.1
	12H	24.6	25.6	24.9	25.9	26.2	24.6	25.7	25.0	25.9	26.2
4H	2H	21.4	22.6	21.7	22.8	23.1	21.7	22.8	22.0	23.1	23.3
	3H	23.2	24.3	23.6	24.5	24.8	23.3	24.4	23.7	24.7	24.9
	4H	24.3	25.2	24.6	25.5	25.8	24.3	25.2	24.7	25.5	25.9
	6H	25.2	26.0	25.6	26.4	26.7	25.2	26.0	25.6	26.4	26.7
	8H	25.5	26.3	25.9	26.6	27.0	25.5	26.3	25.9	26.6	27.0
	12H	25.7	26.4	26.1	26.8	27.2	25.7	26.4	26.1	26.8	27.2
8H	4H	24.5	25.3	24.9	25.7	26.1	24.6	25.3	25.0	25.7	26.1
	6H	25.6	26.3	26.1	26.7	27.1	25.6	26.3	26.1	26.7	27.1
	8H	26.0	26.6	26.5	27.0	27.5	26.0	26.6	26.5	27.0	27.5
	12H	26.3	26.7	26.7	27.2	27.7	26.3	26.8	26.8	27.2	27.7
12H	4H	24.6	25.3	25.0	25.7	26.1	24.6	25.3	25.0	25.7	26.1
	6H	25.7	26.3	26.1	26.7	27.1	25.7	26.3	26.1	26.7	27.1
	8H	26.1	26.6	26.6	27.1	27.5	26.1	26.6	26.6	27.1	27.5
Variations with the observer position at spacings:											
S = 1.0H		+ 0.3 / - 0.3					+ 0.3 / - 0.3				
1.5H		+ 0.3 / - 0.2					+ 0.4 / - 0.3				
2.0H		+ 0.6 / - 0.3					+ 0.6 / - 0.4				

CIE Pub.117 Corrected 1337 lm Total Lamp Luminous Flux.(8log(F/F0) = 1.0)

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2023-07-26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295T
 Humidity:65.0%
 Test Distance:9.460m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.8V I:0.1010A P:15.50W PF:0.6950 Lamp Flux:1337.34x1 lm		
NAME: UNF-20210015-CDA 下	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

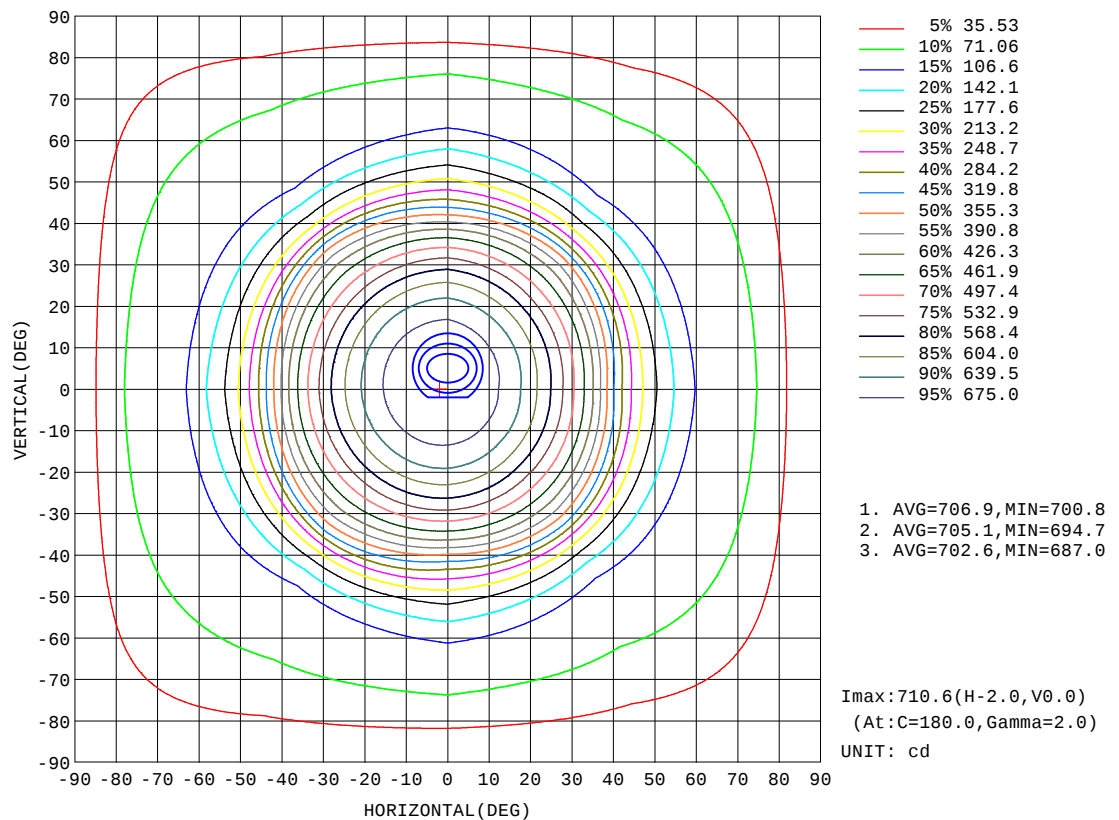
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	69	58	50	68	57	50	65	56	50	43
0.80	78	67	59	76	66	59	73	64	58	51
1.00	84	74	67	83	73	66	79	71	65	57
1.25	90	81	74	88	80	73	85	77	72	64
1.50	95	86	79	93	84	78	89	82	77	68
2.00	101	93	88	98	92	87	94	89	84	76
2.50	104	97	92	101	96	91	97	92	88	79
3.00	106	100	96	104	98	94	99	95	91	82
4.00	109	105	101	107	102	99	102	99	96	86
5.00	111	107	104	108	105	102	104	101	98	88
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Ceiling Mounted					SHRNOM = 1.00		

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2023-07-26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.295T
 Humidity: 65.0%
 Test Distance: 9.460m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:220.8V I:0.1010A P:15.50W PF:0.6950 Lamp Flux:1337.34x1 lm		
NAME: UNF-20210015-CDA 下	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



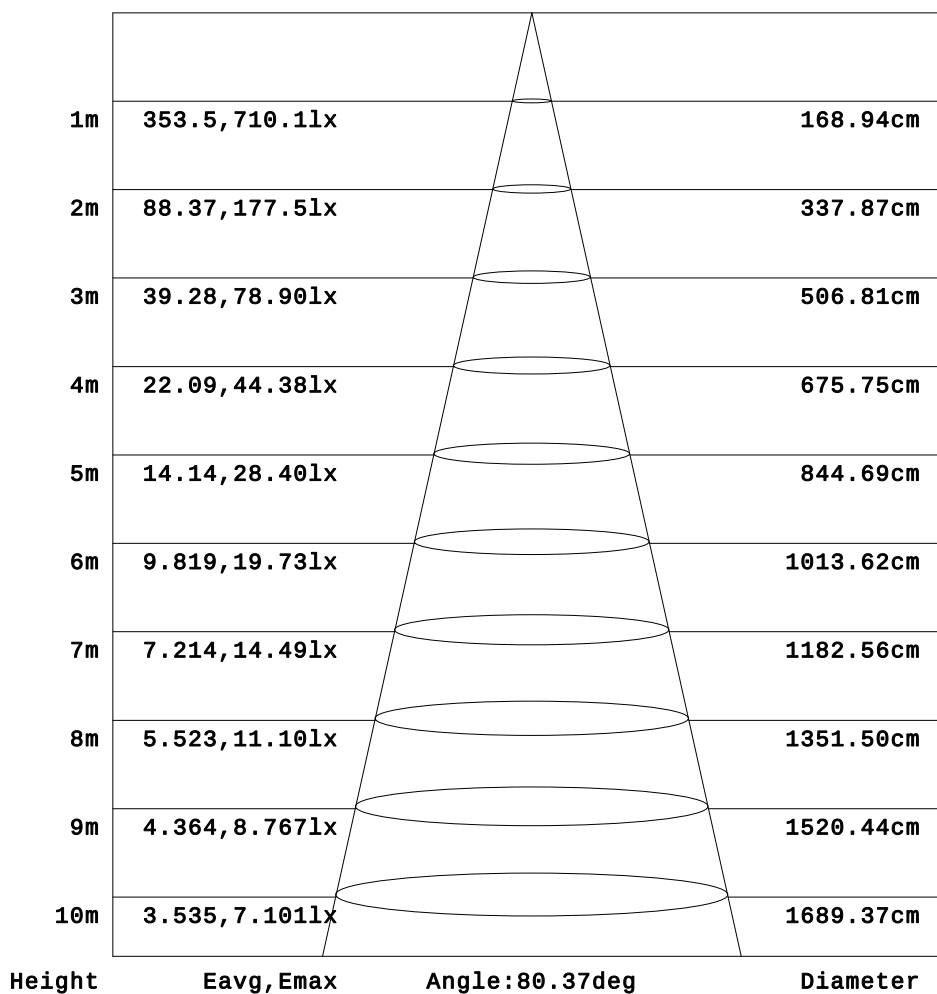
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-07-26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.295T
Humidity: 65.0%
Test Distance: 9.460m [K=1.0000]
Remarks:

AAI Figure

Test:U:220.8V I:0.1010A P:15.50W PF:0.6950 Lamp Flux:1337.34x1 lm		
NAME: UNF-20210015-CDA 下	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

Flux out:839.2 lm



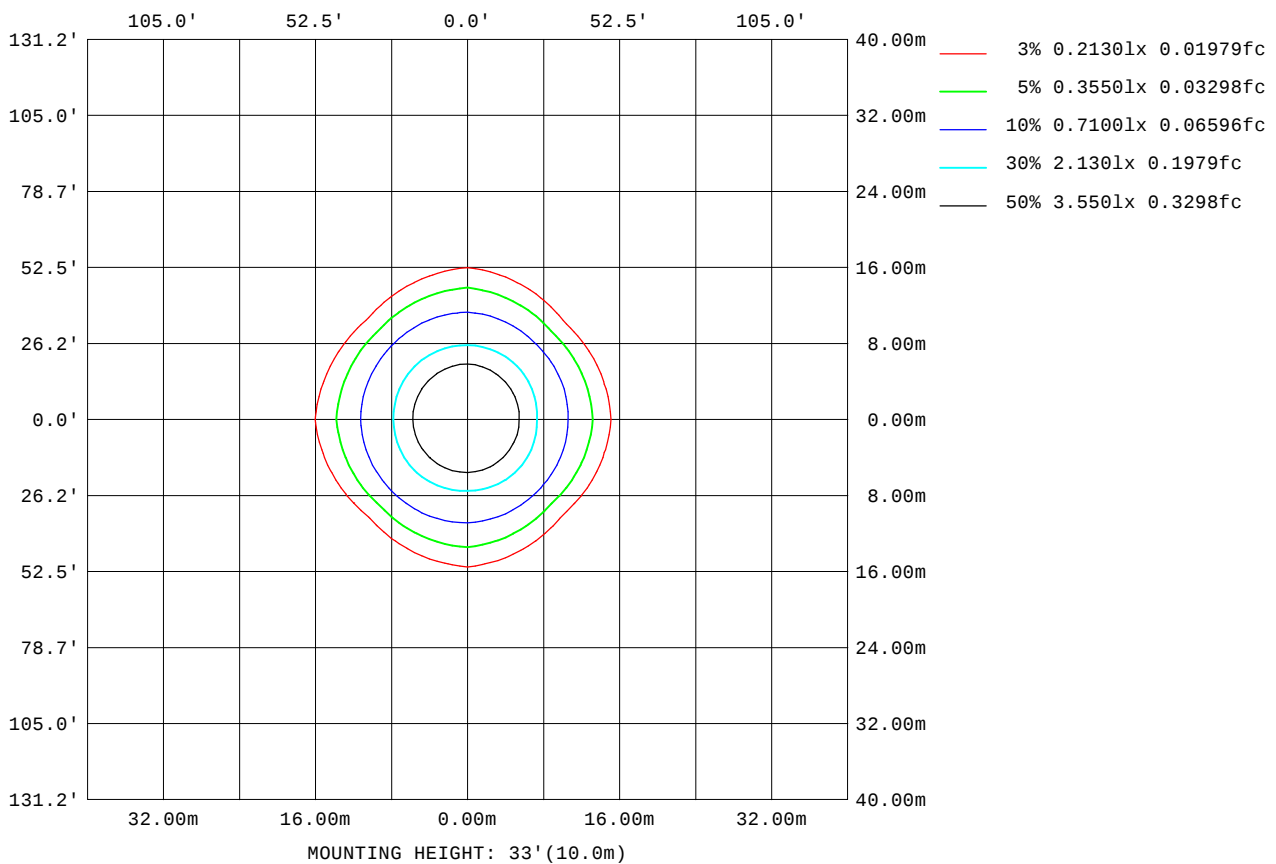
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2023-07-26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-2000A_V1 SYSTEM V2.0.295T
 Humidity:65.0%
 Test Distance:9.460m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:220.8V I:0.1010A P:15.50W PF:0.6950 Lamp Flux:1337.34x1 lm		
NAME: UNF-20210015-CDA 下	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2023-07-26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.295T
 Humidity: 65.0%
 Test Distance: 9.460m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:220.8V I:0.1010A P:15.50W PF:0.6950 Lamp Flux:1337.34x1 lm		
NAME: UNF-20210015-CDA 下	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

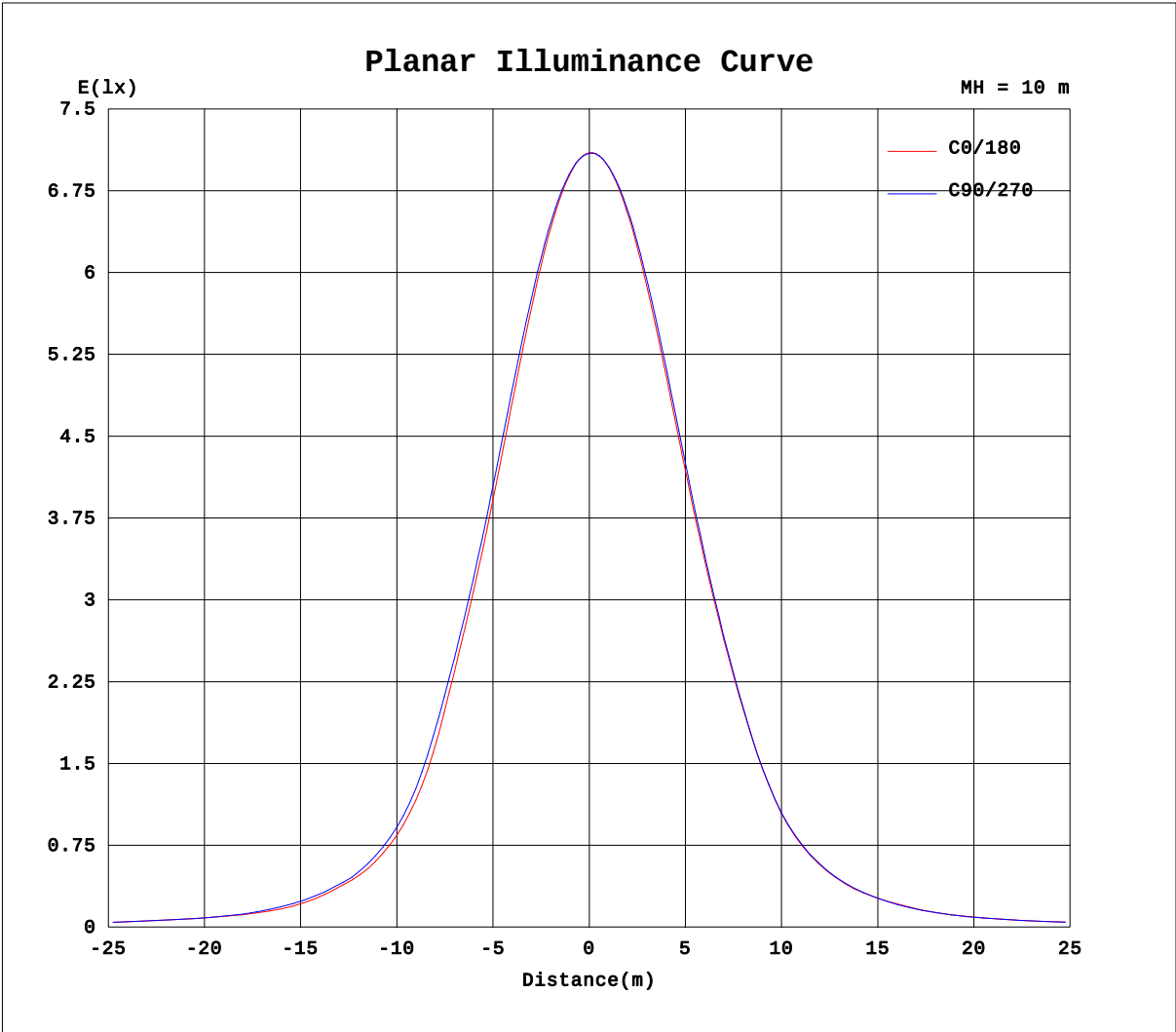
AvgL	cd/m2
L_0~180(65)av	15483
L_0~180(75)av	19423
L_0~180(85)av	19512
L_90~270(65)av	15428
L_90~270(75)av	18415
L_90~270(85)av	17415
L_45(65)av	13053
L_45(75)av	15245
L_45(85)av	15781

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-07-26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.460m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-07-26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.460m [K=1.0000]
Remarks: